

The Power of Global Collaboration
Defense | Government | Industry | Academia

Next Generation Learning Environment Next Generation Learner

iFest 2011 – 3 August 2011

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contractor with Problem Solutions

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contractor with Serco



Future Learning Experiences



Goals:

- Enable learning experiences...
 - Rich, engaging, integrated, effective
 - Flexible with different pedagogies
 - Interoperable, Repurpose-able, Flexible, Accessible
- Enable the Personal Learning Associate



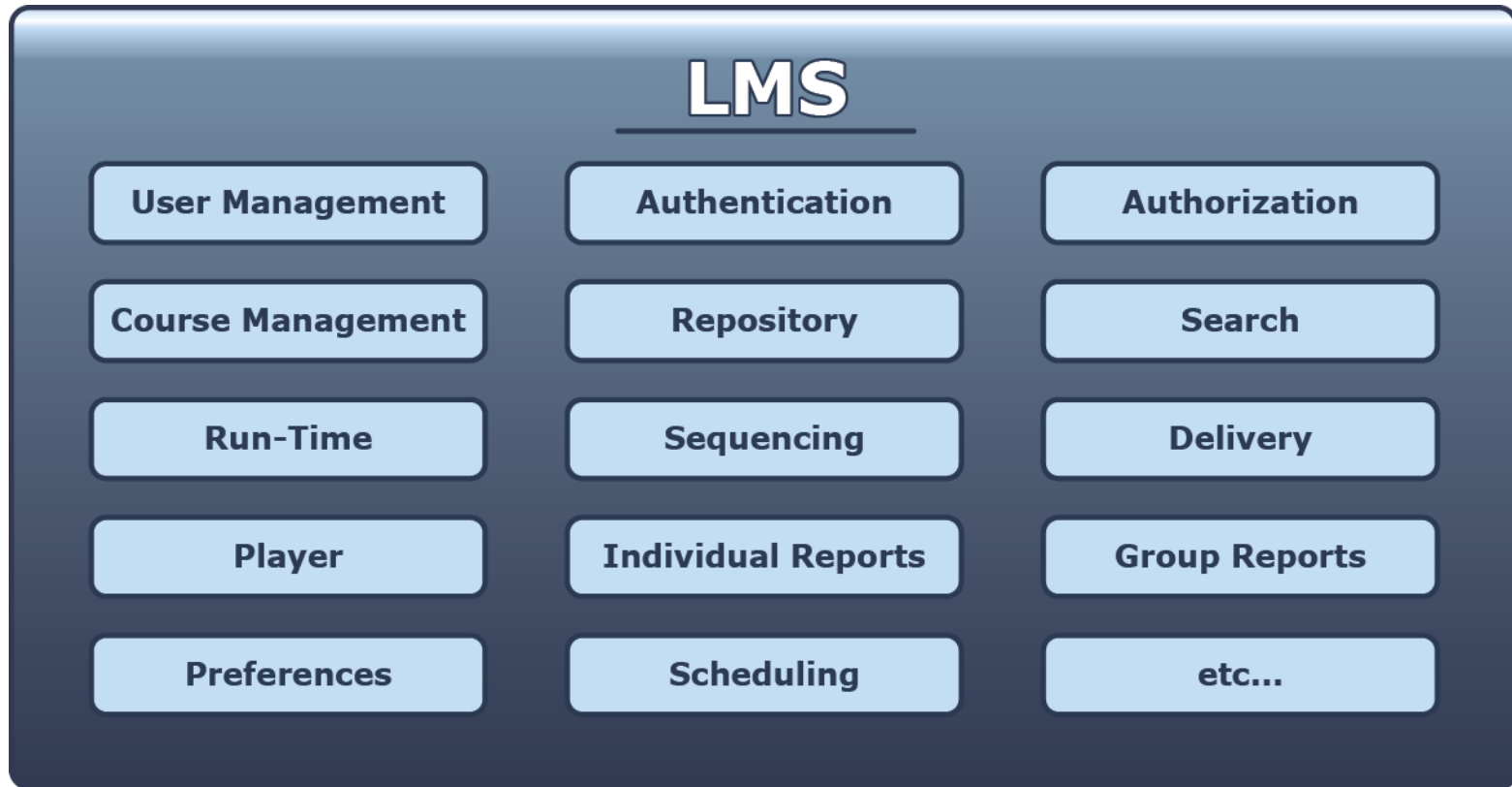
A Little History - SCORM®



- Initiated in 1997
- De facto global learning standard
- Packaging Content
- Describing Content w/ Metadata
- Run-Time Environment
- Sequencing & Navigation



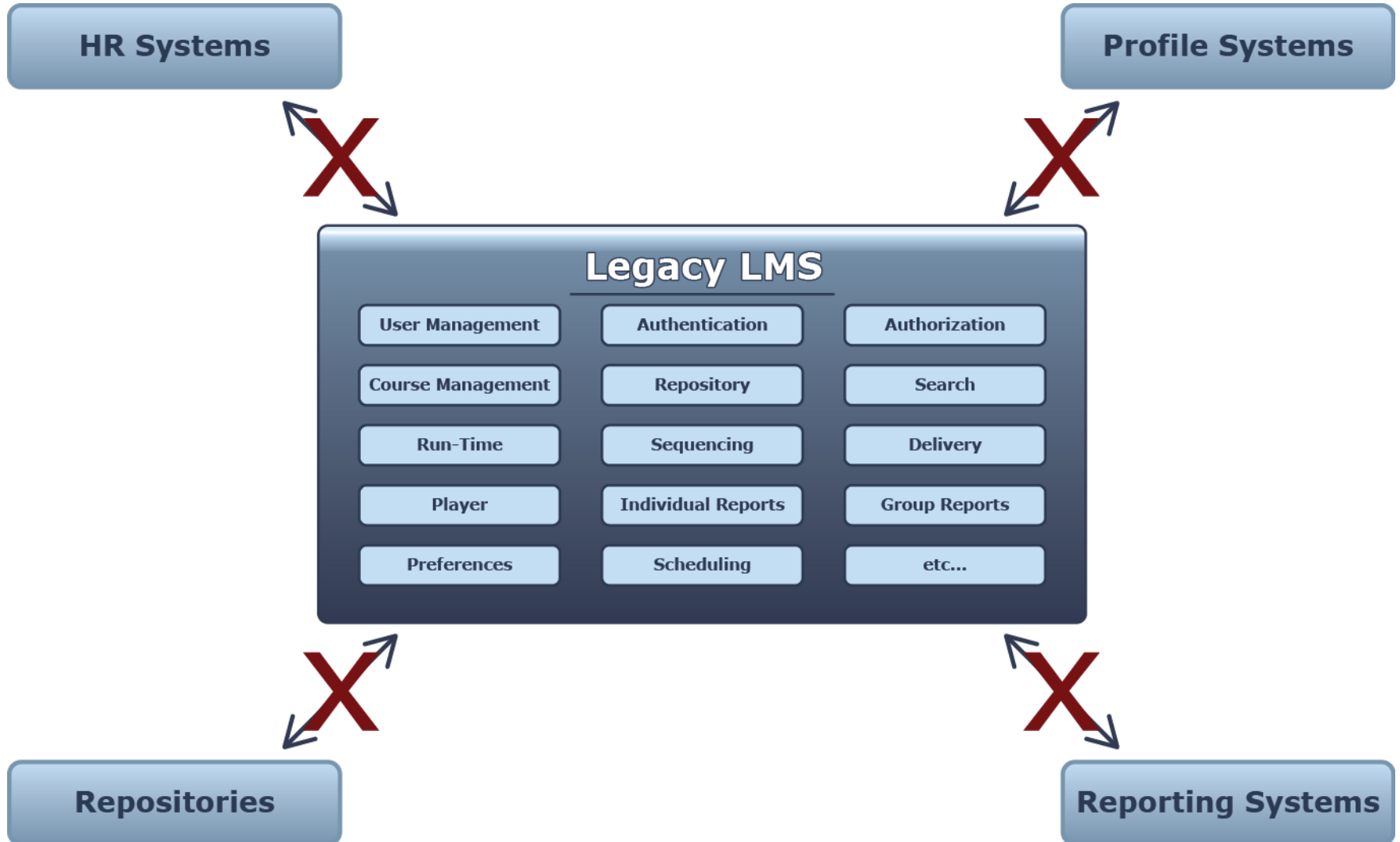
The Result



Monolithic Systems

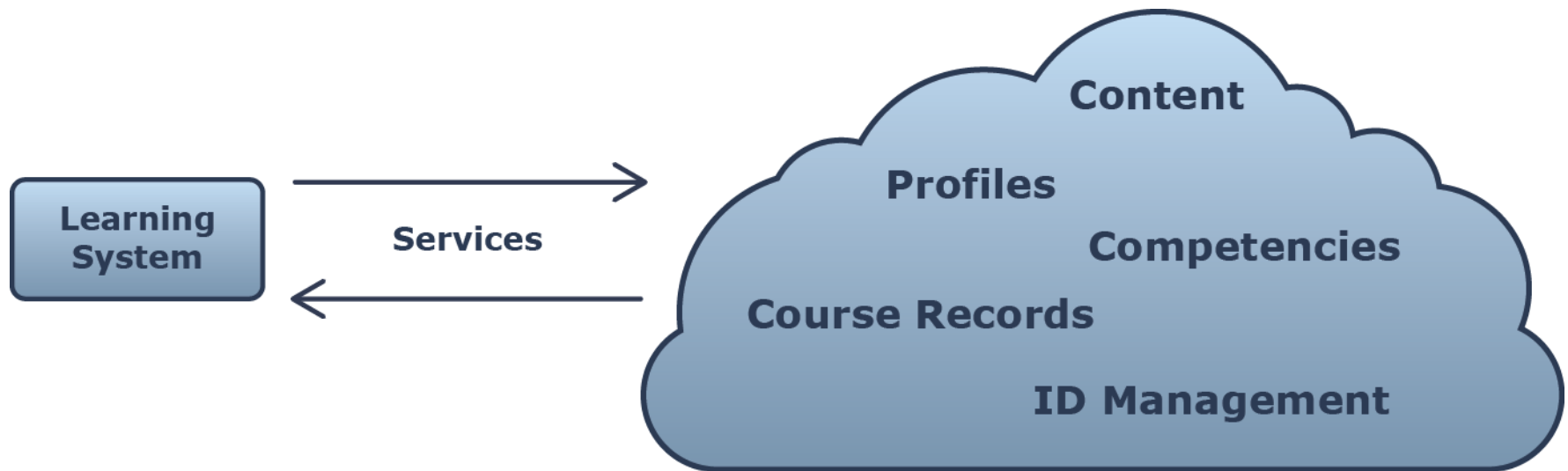


Enterprise Architecture





Web 2.0 and the Cloud



Enterprise Architecture Approach



Community Driven



Requirements from:

- Community Outreach
- Help Desk
- Project TinCan
 - UserVoice Site
 - 1-on-1 Interviews

Identified consistent issues



ADL's Role



- Research existing technologies and methods
- **Develop prototypes**
- Provide lessons learned
- Raise awareness



External Organizations



- LETSI
 - IEEE
 - AICC... and many others
-
- Aligning efforts and working groups
 - Working together for the greater goal

To enable effective and efficient learning



Enabling Learning



...to enable effective and efficient learning

- Know who the learners are*
- Know what types of outcomes are desired*
- Choose technologies that support those outcomes*



Learners - 2005



Today's Learners

- **Characteristics**
 - Digital (growing up in constant contact with digital media)
 - Connected
 - Action-oriented
 - Experiential
 - Immediate
 - Social
- **Learning Preferences**
 - Teams, peer-to-peer
 - Engagement & experience
 - Visual & kinesthetic
 - Things that matter



Educating the Net Generation (2005)
<http://www.educause.edu/educatingthenetgen>

EDUCAUSE
Learning Initiative⁹



21st Century Learner - 2011



- Born after 1982
- Multi-tasking – multi-modal
- Internet centered
- Group oriented/Social
- Diverse
- Inductive discovery/exploratory
- Fast response times/Instant access
- Knowledge should have personal meaning – matters
- Desire to reach own conclusions and results

http://depd.wisc.edu/series/06_4168.pdf



Instructional Tech Lens



- Inductive vs. Deductive
- Social vs. Individual
- Situated vs. Detached
- Networked vs. Unplugged
- Customized vs. Standardized
- Immediate vs. Delayed Results

Learning Implications

	Psychological learning theories			Social theories			Connectivism/Laon	
	Behaviourism	Cognitivism	Constructivism	Social constructivism	Situated learning	Activity theory	Actor-network theory	
<i>Key concepts</i>	Mind as a "black box"	Schema, sensory, register, short-term memory (STM), long-term memory (LTM)	Mental structures, personal interpretation, prior experiences	Social negotiation, zone of proximal development (ZPD)	Legitimate peripheral participation (LPP), newcomer, old-timer	Activity system, subject, object, mediating artefacts, expansive learning	Actors, sociology of translation/associations, generalised symmetry	Personal knowledge network (PKN), knowledge nodes
<i>How does learning occur?</i>	Change in learner's behaviour	Transformation in internal cognitive structures	Adjusting our mental models to accommodate new experience	Moving from the level of actual development to the level of potential development	LPP	Generate actions within a mediated, object-oriented activity	Actor-network forming process	Connections identification, pattern recognition
<i>Focus</i>	Behaviour modification (intrinsic)	Internal cognitive structures (intrinsic)	Learners build their own mental structures (intrinsic)	Reaching the level of potential development (intrinsic)	Community of practice (CoP)	Activity system	Actor-networks	Learner and her PKN
<i>Core activity</i>	Stimulus-response, selective reinforcement	Process and store information, reorganisation of cognitive structures	Self-directed tasks	Travelling through ZPD	Participation, negotiation of meaning, identify formation	Sequence of actions in an expansive cycle	Translation, i.e., creation of actor-networks and generation of ordering effects	Widen our PKNs to embrace new knowledge nodes
<i>Learner's role</i>	Knowledge acquisition	Knowledge internalisation	Knowledge construction	Knowledge co-construction	Engagement in a CoP	Construction of the activity object using mediating artefacts	Mediator in actor-networks	Knowledge networker
<i>Underlying social entity and its characteristics</i>				Group of teachers and peers, centralised, controlled, top-down	CoP, closed, structured, hierarchical, knowledge-push	Knots, temporary relationships, predictable	Actor-network, heterogeneous	Knowledge ecology, complex adaptive, unpredictable, dynamic, open, distributed, diverse, emergent, self*, homogeneous, knowledge-pull

Chatti, M.A., Jarke, M. & Quix C. *Int. J. Learning Tech.* V 5, N 1, 2010.



Strategies



- Authentic problem-based designs
- Situated learning
- Metacognitive awareness
- Social negotiation
- Cultural mediation
- Guided participation
- Collaboration
- Changing role of instructor
- Personal learning networks



Competencies and Needs - 1



- SCANS five competencies for workplace success*
 1. Identifies, organizes, plans and allocates resources
 2. Works with others
 3. Acquires and evaluates information
 4. Understands complex interrelationships
 5. Works with a variety of technologies

*What Work Requires of Schools: A SCANS Report for America 2000, U.S. Department of Labor, June 1991, pp. xvii-xviii



Competencies and Needs - 2



- Foundational skills include thinking skills*
 - Creativity, decision making, problem solving, visualizing, knowing how to learn, and reasoning
- Distilled to workforce needs
 - Problem Solvers
 - Disciplinary Thinkers
 - Cognitively Adaptable
 - All require metacognition

*What Work Requires of Schools: A SCANS Report for America 2000, U.S. Department of Labor, June 1991, pp. xvii-xviii



H/O Learning Outcomes



The New Taxonomy of Educational Objectives by Robert Marzano

Three Systems and Knowledge

Self System		
Beliefs about the importance of the knowledge	Belief about the Efficacy (ability to learn)	Emotion associated with knowledge
Overall Motivation to Learn		

Metacognitive System			
Specifying learning goal	Monitoring for execution of knowledge	Monitoring for clarity	Monitoring for accuracy

Cognitive System												
Retrieval		Comprehension		Analysis					Knowledge Utilization			
Recall	Execution	Synthesis	Representation	Matching	Classifying	Error Analysis	Generalizing	Specifying	Decision Making	Problem Solving	Experimental Inquiry	Investigation

Knowledge Domain		
Information Conceptual and Factual	Mental Procedures	Physical Procedures



Technology Needs



- Assess and track higher order learning outcomes
- Support inductive thinking
- Facilitate exploratory learning
- Allow for “situatedness” or context – simulated authentic environments
- Support collaborative learning models – many-to-many tracking, communication modes, interaction capture
- Allow social negotiation
- Support metacognitive activities
- Facilitate generative learning and problem-based learning models
- Combine technologies to support any or all of the above – i.e. services



Questions



Turning Point Technologies

Instructions



Question #1



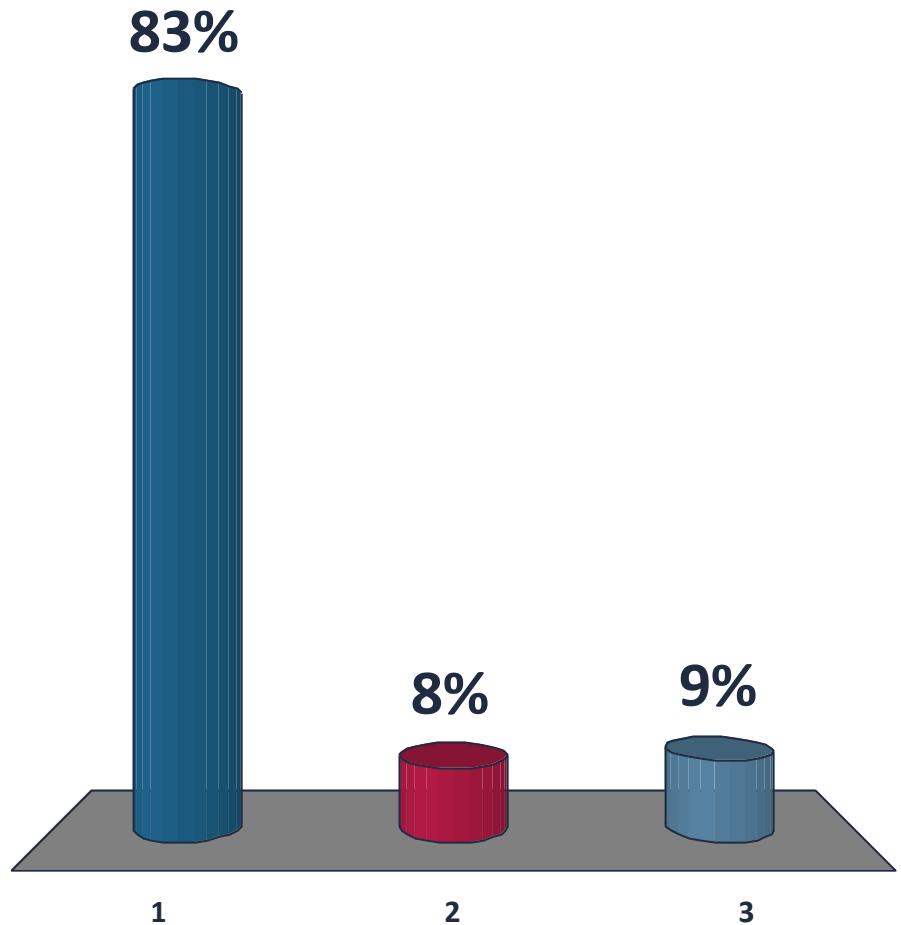
Do you have the need to design instruction that requires the learner to have a deeper understanding of the content than memorization or recognition (i.e. Bloom's level 1)?



Question #1



1. Yes
2. No
3. I don't understand the question





Question # 2



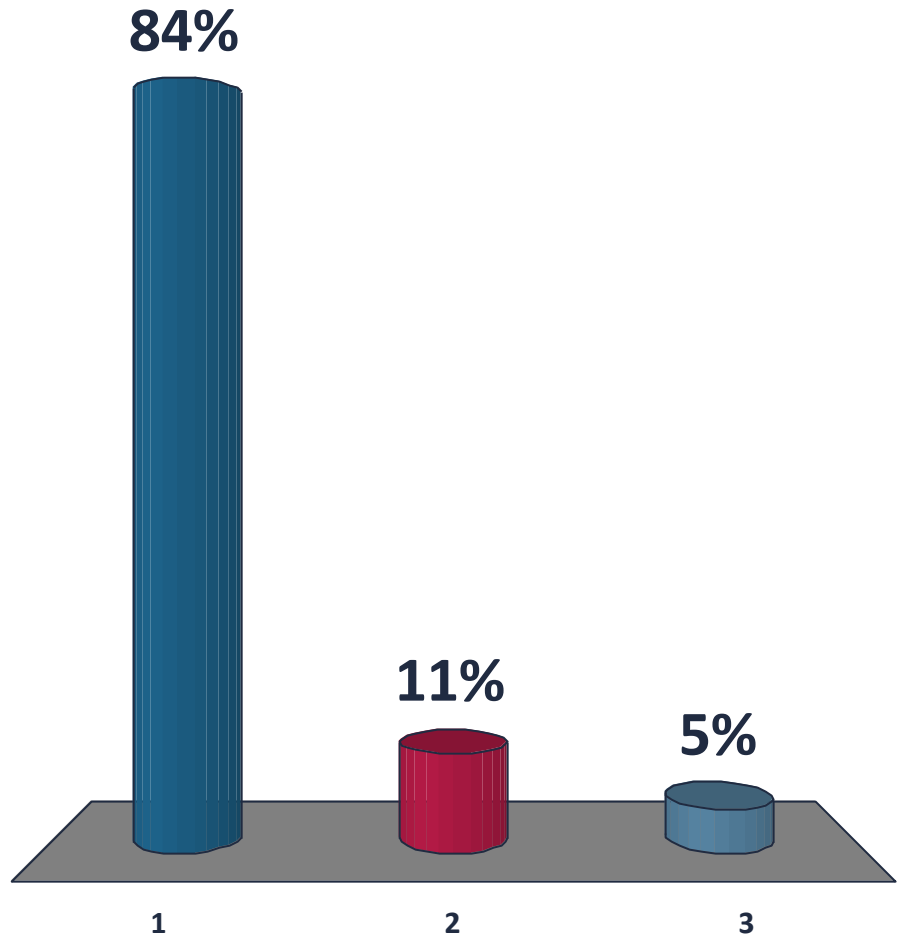
As an ISD, is the tracking of learner actions taken to complete learning activities something you care about (i.e. other than an assessment score)?



Question #2



1. Yes
2. No
3. I don't understand the question





Question #3



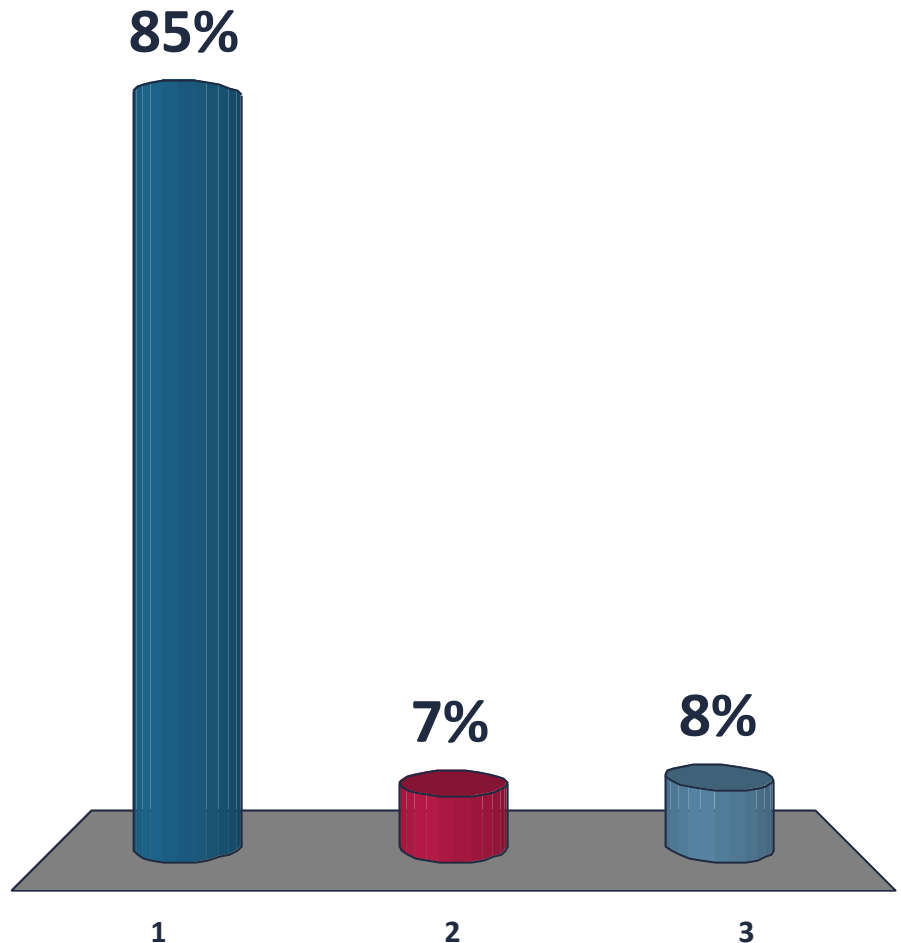
Would you benefit from being able to capture learner performance characteristics that are richer in scope and depth than tests involving score thresholds?



Question #3



1. Yes
2. No
3. I don't understand the question





Question #4



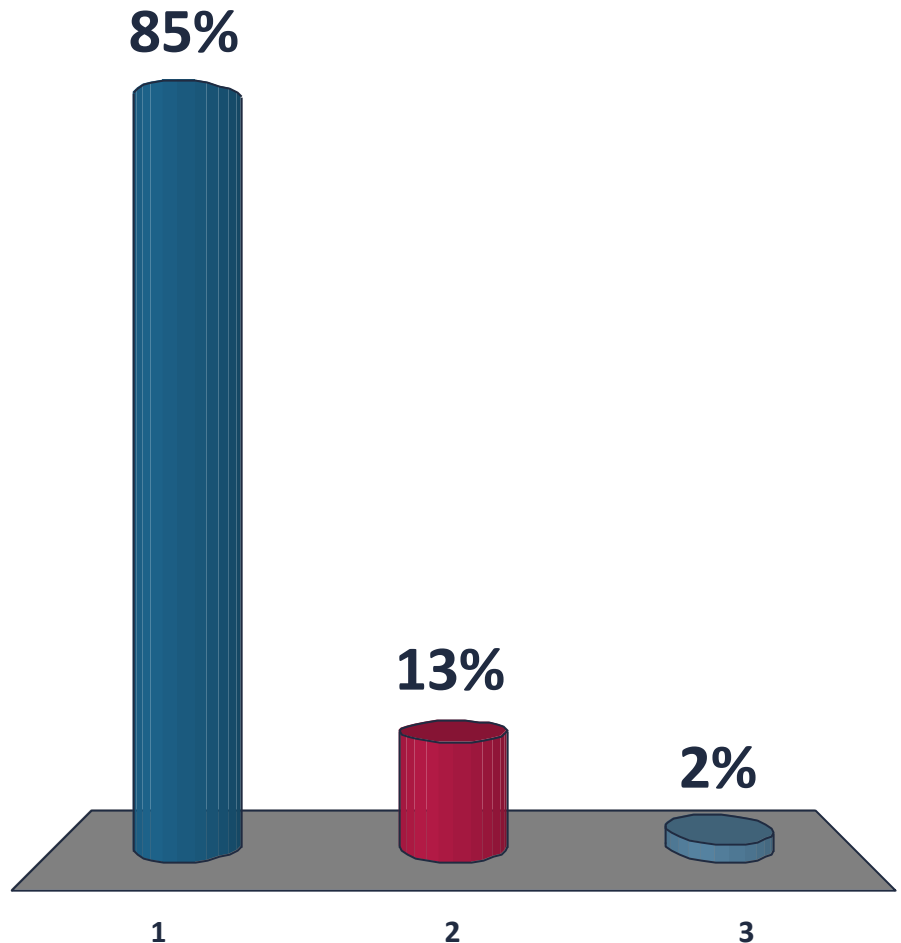
Would you benefit from being able to track, aggregate, and interpret learner interactions across many types of platforms – i.e. VWs, social media, LMSs, etc.?



Question #4



1. Yes
2. No
3. I don't understand the question





Question #5



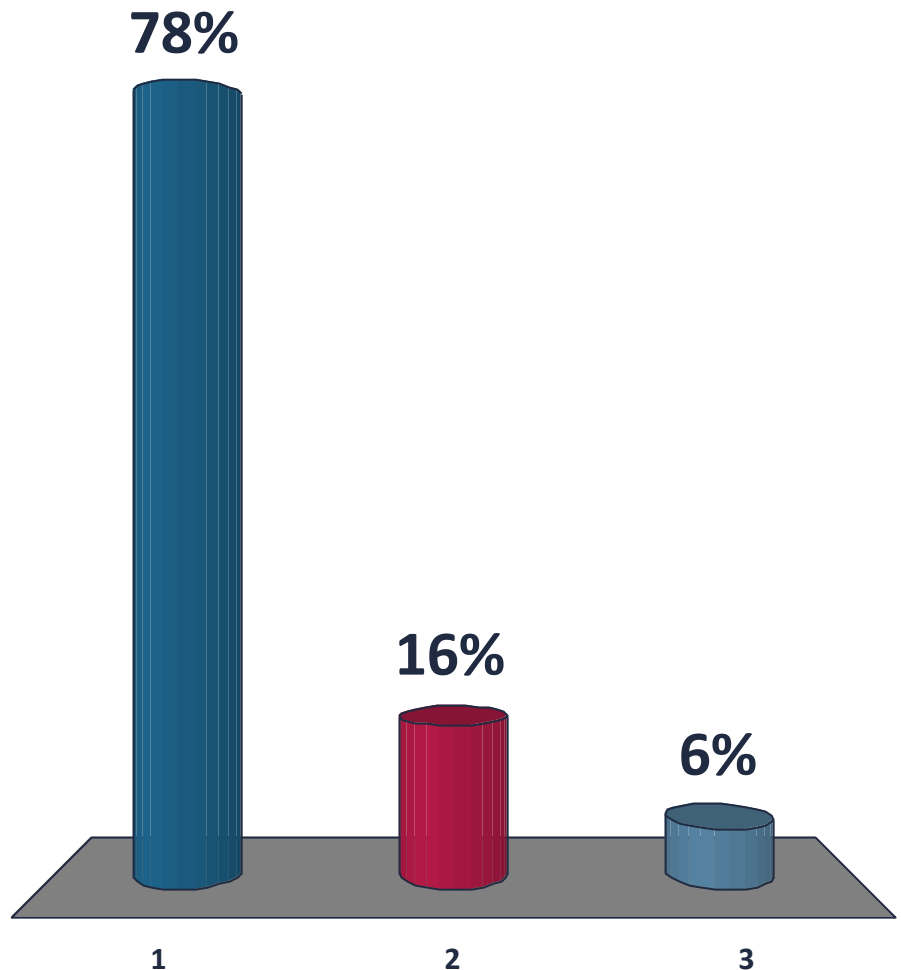
Would you benefit from incorporating and tracking collaborative activities in your course designs?



Question #5



1. Yes
2. No
3. I don't understand the question





Question #6



Have you tried to create custom reports or query data not supplied in your LMS reporting features?

Or...

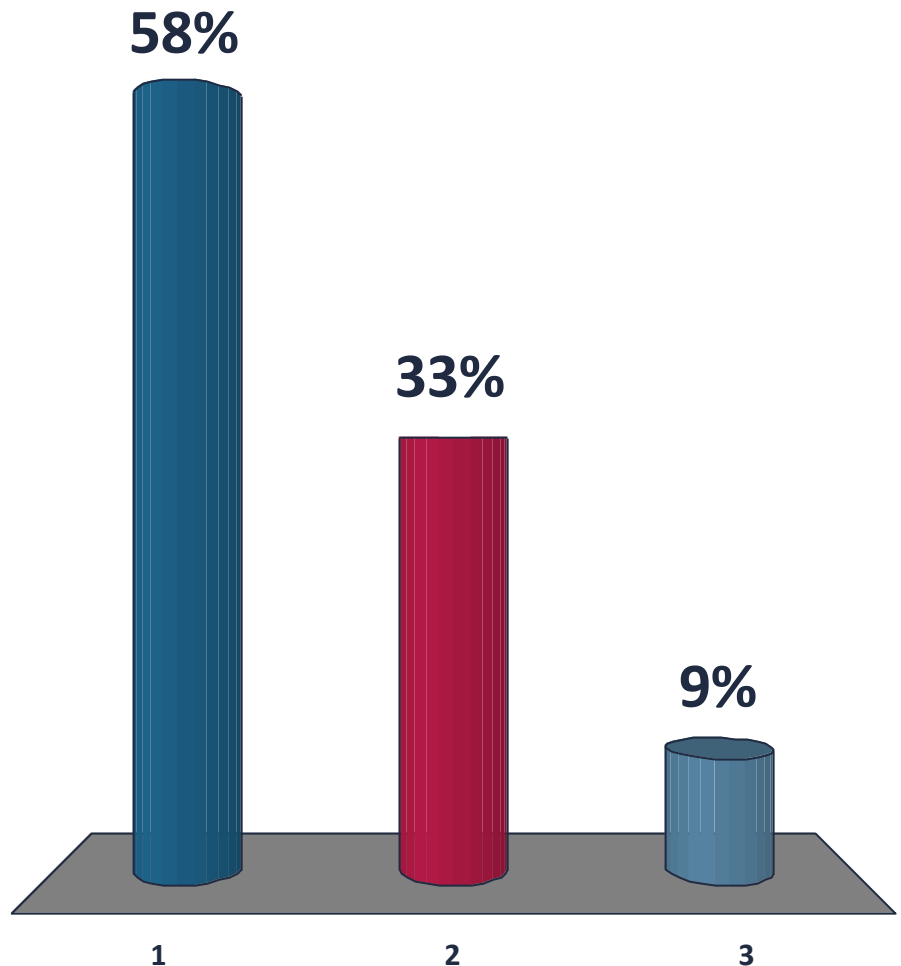
Have you tried to access learner data to perform assessment or statistical analysis?



Question #6



1. Yes
2. No
3. I don't understand the question





Question #7



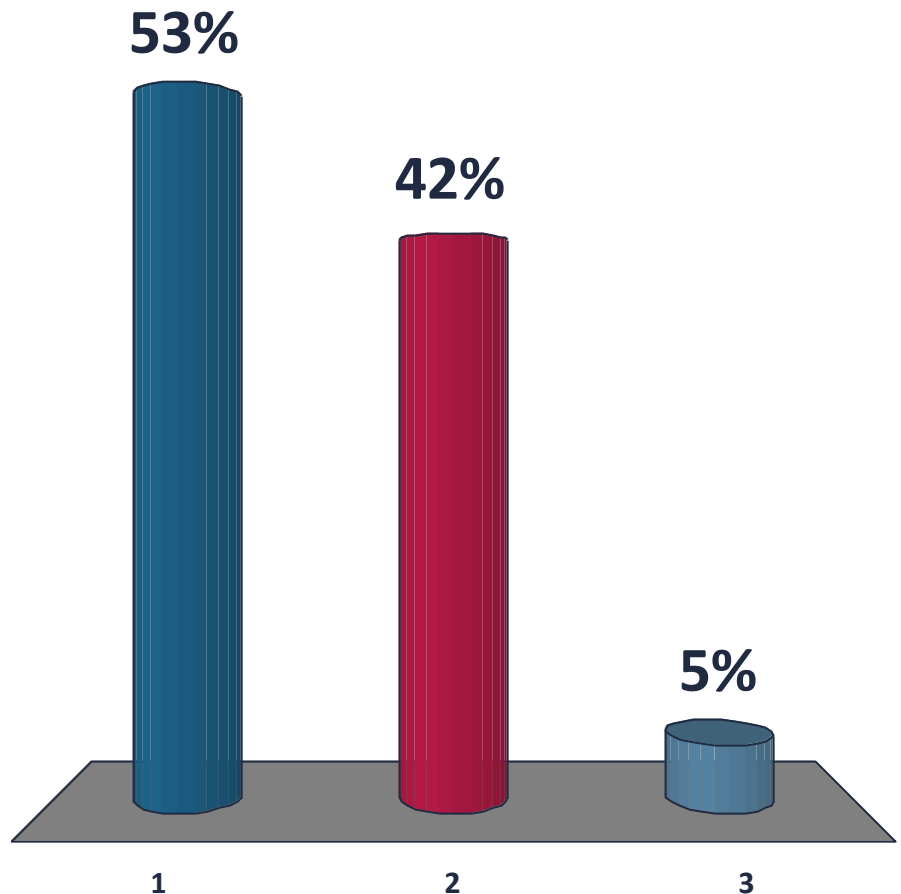
Have you ever experienced a content lifecycle issue due to several versions of a course hosted by several LMSs?



Question #7



1. Yes
2. No
3. I don't understand the question





Question #8



Have you ever wanted to integrate and track content that is not displayed in a browser?

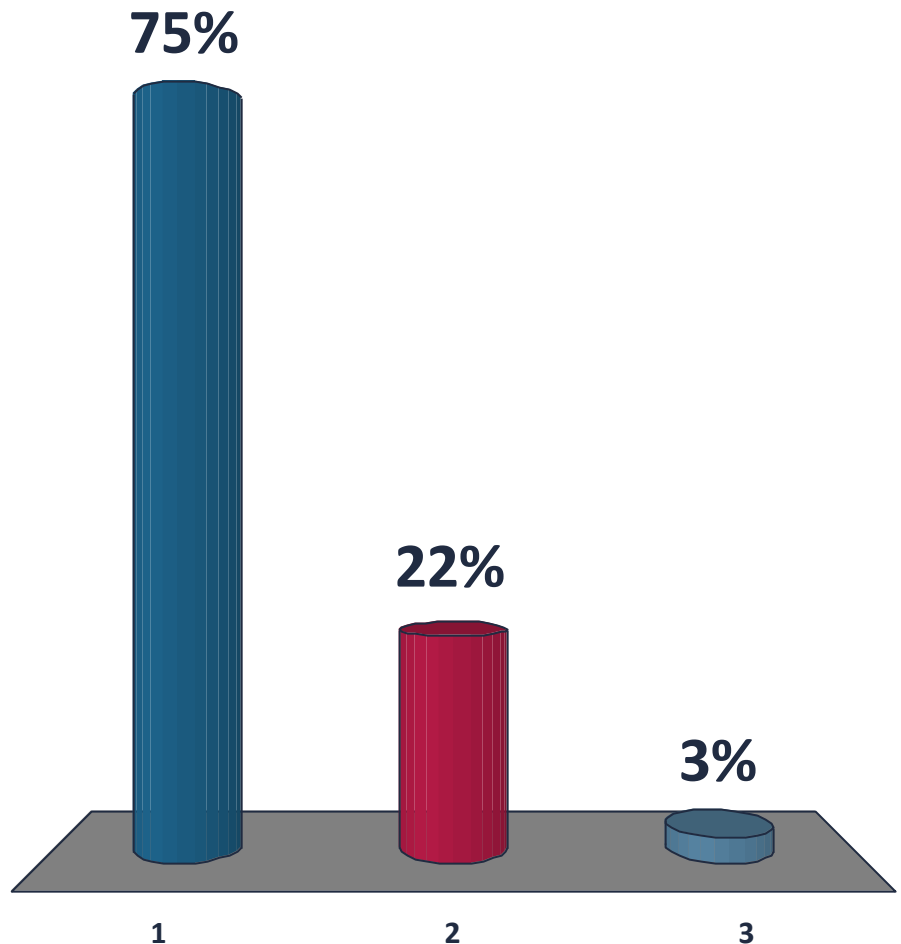
This includes out-of-browser games, virtual worlds, simulations, etc.



Question #8



1. Yes
2. No
3. I don't understand the question





Question #9



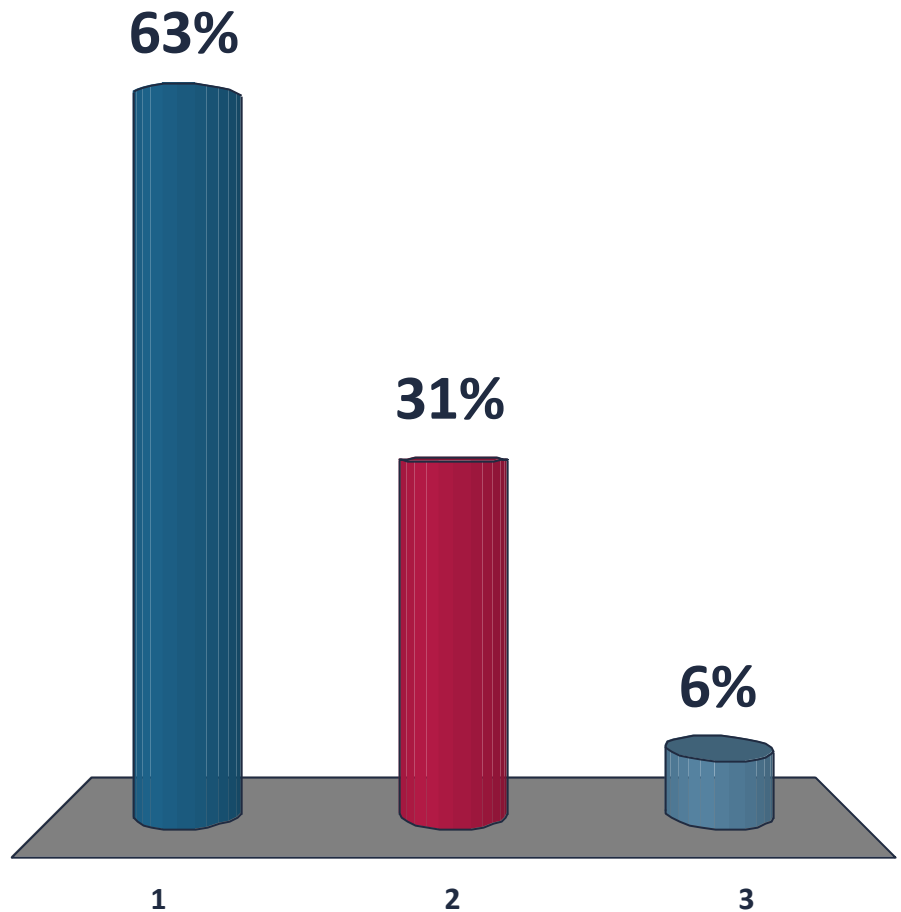
Have you ever wanted to track learner information that is not included in the SCORM or other data models?



Question #9



1. Yes
2. No
3. I don't understand the question





SCORM Gaps



- Static data model
- Single learner tracking
- No concurrent functionality
- Discrete content definitions
- Optimized for single learner, self-directed learning
- Optimized for L/O learning outcomes
- I can't get to my data
- Local content only
- In-browser content only



Tech Demos



- Learning Record Store (LRS)
- Android Tablet Application
- Mobile Content as a Service (CaaS) Course
- Unity Game
- Legacy Content/LMS
- Microsoft Kinect Simulation
- Virtual World Learning Experience

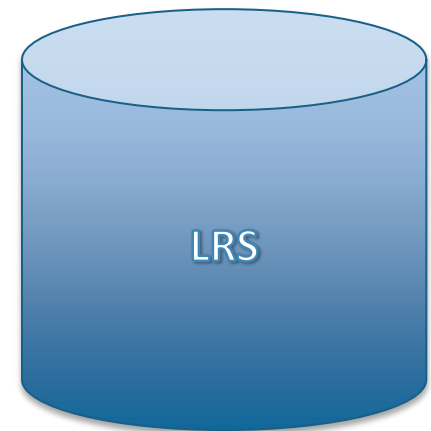


Learning Record Store



- LRS \approx LMSs of today
- Administration of demo components
- User management
- Content management
- Learning record storage

Does *not* provide sequencing or navigation





Android Tablet Application



- Native Android tablet application
- External interface to LRS data
- “Learning dashboard”
- Out-of-browser administration





Mobile CaaS Course



- Illustrates 'hosted' content
- Smart rendering per device
- Cross-domain content
- Tracking performance to LRS





Unity Game



- “Serious” game demonstration
- Open source Unity game
- Out-of-browser content
- Tracking performance to LRS





Existing SCORM Content



- Integration via a “wrapper”
- Legacy content tracking in a service-based system
- Uses legacy systems for import, sequencing, etc.





Microsoft Kinect Simulation



- Motion and speech control
"simulation"
- Microsoft SDK sample
- Out-of-browser content
- Tracking to LRS via voice command
- Speed of integration



KINECT
for XBOX 360



Virtual World



- Multiple Users
- Tracking to LRS
- Integration of content within the virtual world
 - Learning dashboard
 - Autotutor Lite
 - Google Docs
 - Yammer
 - Legacy Content





Learning Demo



- Contextualizing the technology
- Integrating tech and ID
- Design for H/O outcomes
 - Cognitive Adaptability
 - Requires Metacognitive Awareness
- Cost effectiveness and efficiency



Learning Demo Design



- Problem-based learning
- Metacognitive activities
- Situated or authentic problem
- Coaching
- Authentic assessment
- Extended tracking
- Collaborative
- Generative
- Cohorts – learning communities – CoP
- No instructor – AI coach



Learning Demo Tech



- Virtual Environment -Microworld
- Extensible data model
- Content Coverage Analysis (Auto Tutor Light)
- Learning Record Store
- External tracking and assessment model
- External content accessibility
- Mobile accessibility
- Social media



Learning Demo Content - 1



- Content Area: Information Assurance (IA)
- Goals/Objectives
 - Self Outcome/Goal: Relate IA issues to the workplace, performance, and overall security
 - Cognitive Outcome/Goal: Understand ethical issues that relate to computers and networks specifically in regards to security and privacy including personally identifiable information



Learning Demo Content - 2



- Cognitive Objectives:
 - Decide which issues are important regarding ICT security and privacy
 - Devise mitigation strategies to security and privacy issues occurring within your workplace
 - Define appropriate and inappropriate social networking behaviors as it applies to your workplace
- Metacognitive Outcome/Goal:
 - Understand your thinking processes in terms of clarity and accuracy
- Metacognitive Objective:
 - Formulate and broadcast on-the-spot opinions about the importance of what is being learned and how it impacts you and your interests

Learning Demo

Information Assurance Learning Experience

Top Block +

(1) Suicide Prevention

Suicide Prevention Chat Line

Click to...
CHAT LIVE

ONLINE

24 HOUR ON-LINE SUPPORT

(1) Special Notices

Portal Unavailable, 16 Jun, 1700-1900 CDT

The Portal will be down for required maintenance. The quick links page will be deployed so users can access hosted and reduced sign on applications.

Top Portal Links +

(2) Quick Links

Top Links

Personnel/Finance

- 2011 Pay Table
- AMS - Assignment Mgt Sys
- Personnel Assessment

Featured Items

WELCOME

DID YOU KNOW

LEADERS

SAFETY

CYBER

Kevin Smith

Welcome to DoD Organization ABC. Here are your onboarding training requirements. Please complete these requirements within 90 days.

Course name	Started date	Completed date	Pass/Fail
DoD Information Assurance (IA) Awareness	6/02/11	6/02/11	Pass
DoD Information Assurance (IA) for Managers/Supervisors			
Ethics for Managers/Supervisors			
EEOC for Managers/Supervisors			

Alerts

Urgent

Notices (0)

My Inbox (0)

Indexes A-Z

- Applications
- Bases
- Common Operating Pictures
- Functional Areas
- MAJCOM
- Organizations
- Topics

System Notices +

(5) Downtimes/Outages

- IS Unavailable, 16 Jun/1600 CDT-19 Jun/0800 CDT
- Portal Unavailable, Thursday 16 Jun, 1700-1900 CDT

DoD Information Assurance for Managers/Supervisors course

Course Information

System Requirements

[Show](#) [Check](#)

[Launch course](#)

[Course Reference Library](#)

Course Description (1 of 2)

- The course takes place in a virtual world.
- You will complete course activities in a team with other students.
- This course is only required once in your career at DoD, however, you will be required to subscribe to a community of practice (CoP) on the portal that focuses on Information Assurance in DoD (more details on this will be supplied at the conclusion of the course). Also, there may be updates to information assurance policy that require you to take short sessions to update his training.
- The course will take approximately two and a quarter hours total to complete.
- There will be an assessment at the end of the course that you must pass.
- There are three Sessions in the course. They are each scheduled to be taken at a specific date and time, with about one week's time between the first and second. The second and third sessions are a day apart.

[continue](#)

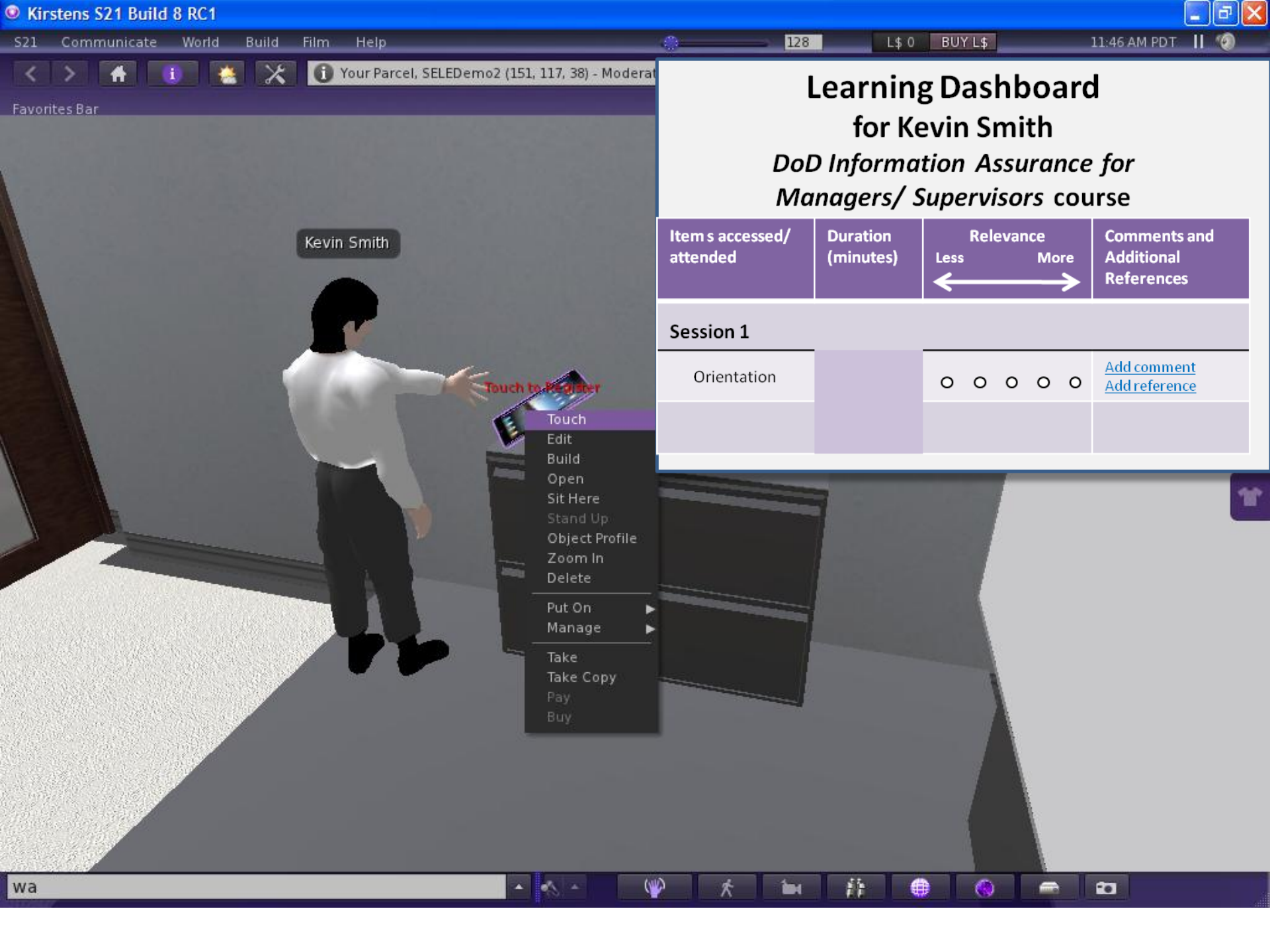


Hello, my name is Yuan. I'm the Facilitator for this DoD Information Assurance for Managers and Supervisors course. We'll start after all of you touch the registration iPad. In the meantime, please get to know each other.

Kevin Smith

Stand

wa



Kevin Smith

Touch to Register

Touch

Edit

Build

Open

Sit Here

Stand Up

Object Profile

Zoom In

Delete

Put On

Manage

Take

Take Copy

Pay

Buy

Learning Dashboard

for Kevin Smith

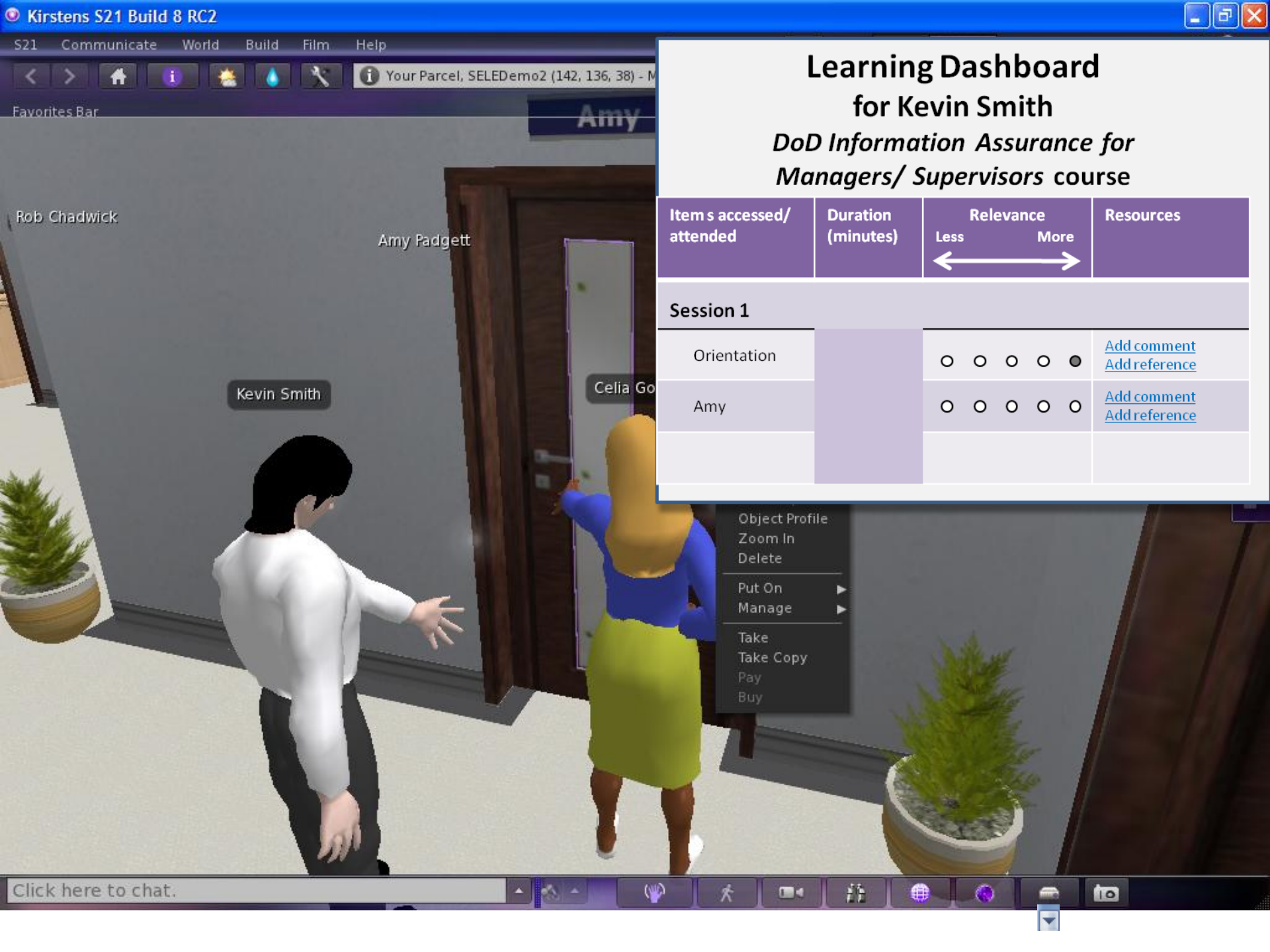
*DoD Information Assurance for
Managers/ Supervisors course*Items accessed/
attendedDuration
(minutes)Relevance
Less MoreComments and
Additional
References

Session 1

Orientation


○ ○ ○ ○ ○

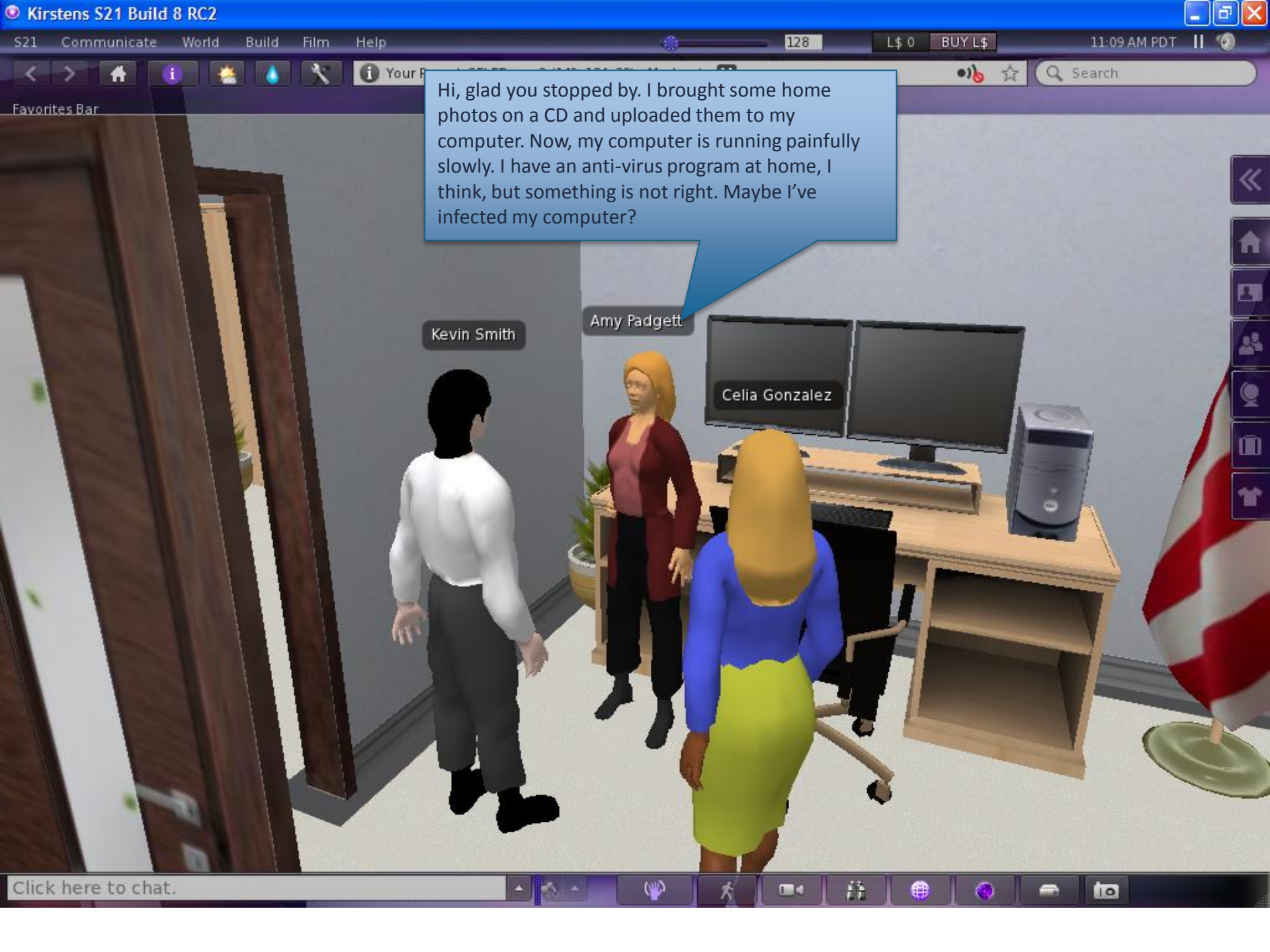
[Add comment](#)[Add reference](#)



Learning Dashboard for Kevin Smith

*DoD Information Assurance for
Managers/ Supervisors course*

Item s accessed/ attended	Duration (minutes)	Relevance Less  More	Resources
Session 1			
Orientation		<div><div></div><div></div><div></div><div></div><div></div></div>	Add comment Add reference
Amy		<div><div></div><div></div><div></div><div></div><div></div></div>	Add comment Add reference



Hi, glad you stopped by. I brought some home photos on a CD and uploaded them to my computer. Now, my computer is running painfully slowly. I have an anti-virus program at home, I think, but something is not right. Maybe I've infected my computer?

Kevin Smith

Amy Padgett

Celia Gonzalez

Click here to chat.



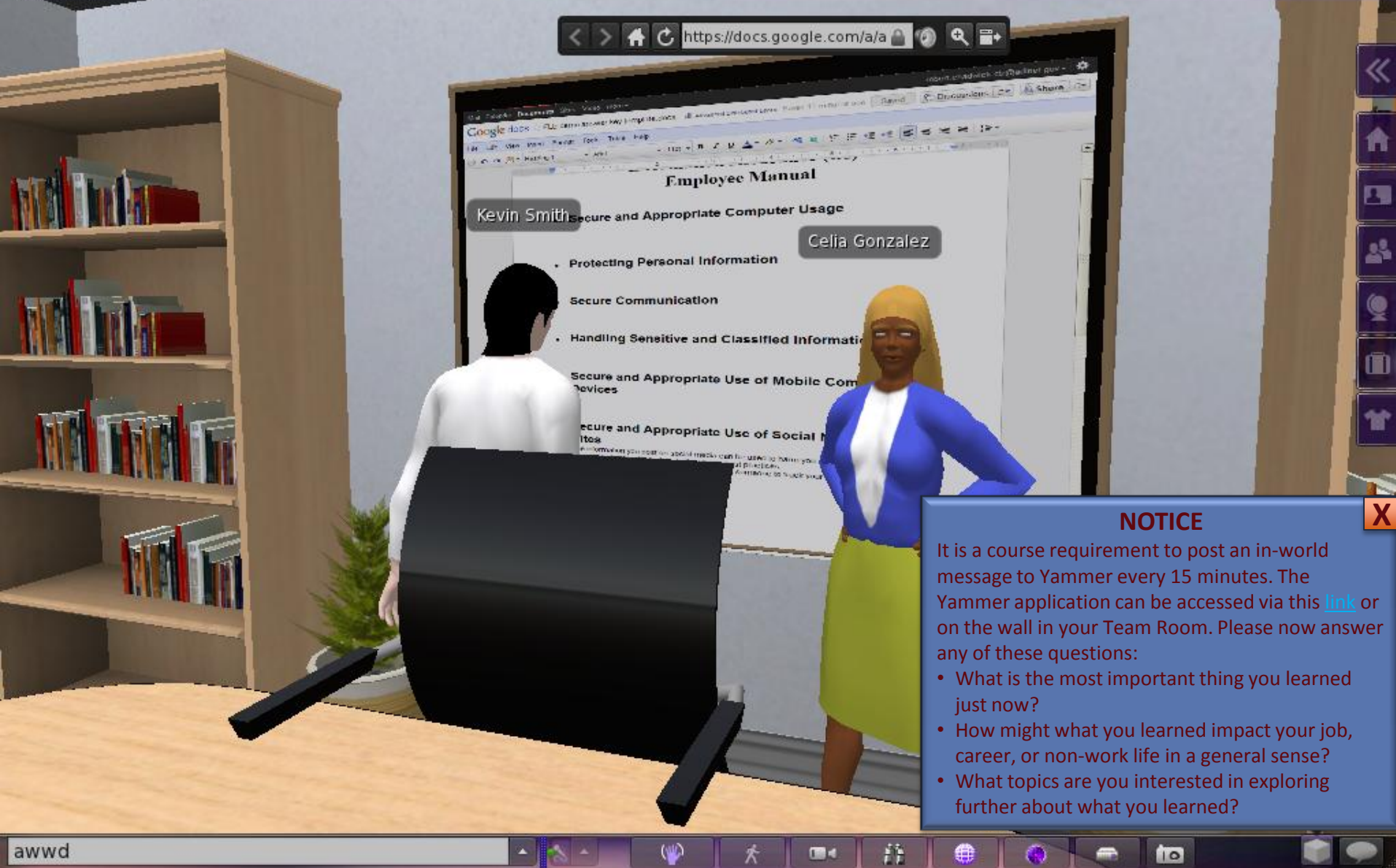
Kevin Smith

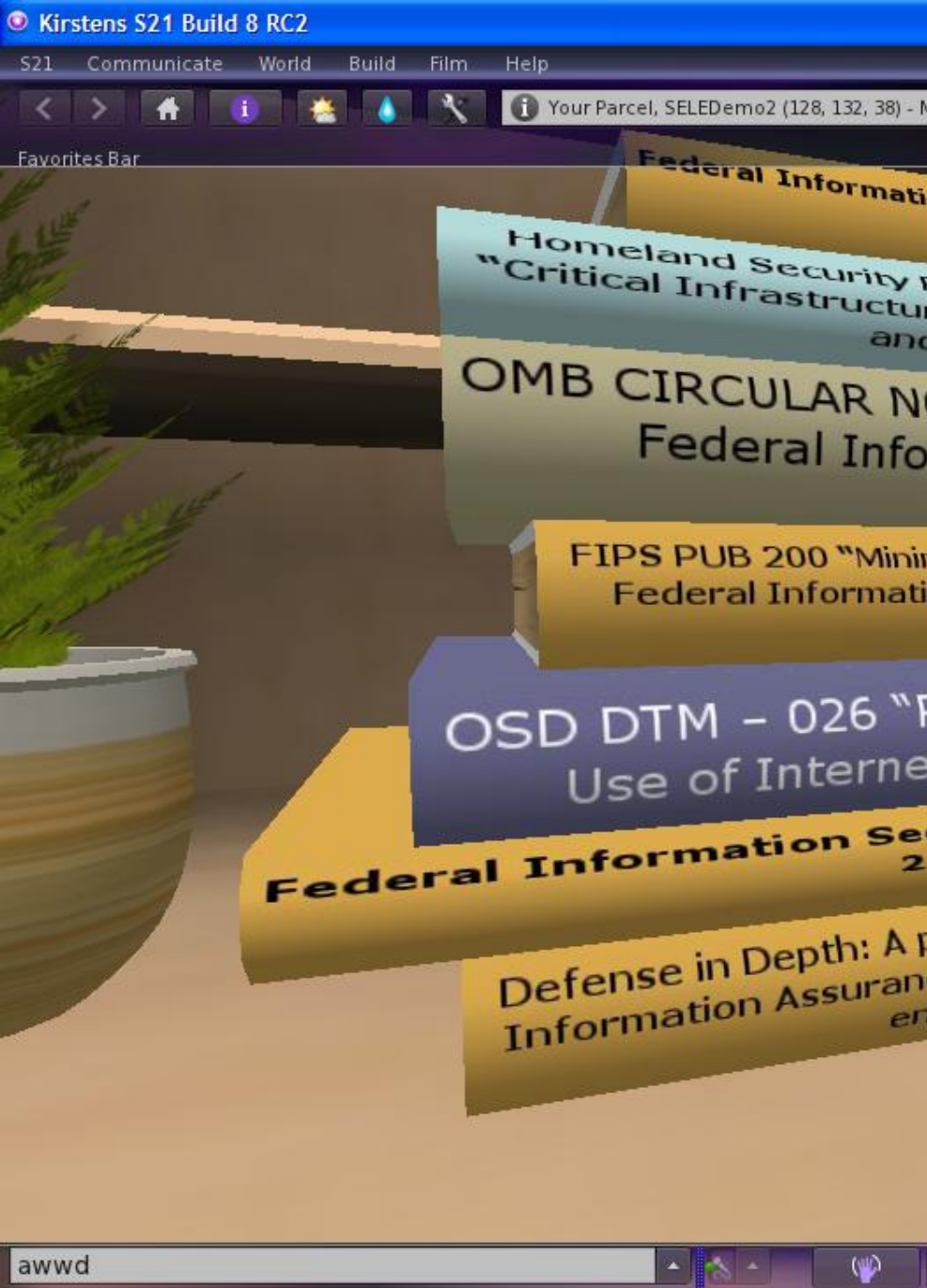
Information Assurance (IA) Employee Manual

- Secure and Appropriate Computer Usage
- Protecting Personal Information
- Secure Communication
- Handling Sensitive and Classified Information
 - "Spillage" occurs when information is "spilled" from a higher classification level to a network at a lower classification level. Follow these security procedures to avoid spillage.
 - Check all documents you handle for their classification level. Do not handle documents above your classification level.
 - Be aware of when to use the NIPRNet vs the SIPRNet and be conscious of which one you are on at all times.
 - Ensure that all files, removable media, and subject headers are labeled with the appropriate security classification level.

Celia Gonzalez

Secure and Appropriate Use of Mobile Computing
Devices






Learning Dashboard

for Kevin Smith

*DoD Information Assurance for
Managers/ Supervisors course*

Item s accessed/ attended	Duration (minutes)	Relevance Less  More	Comments and Additional References
Session 1			
Orientation		<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	Add comment Add reference
Amy		<input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Add comment Add reference
Martin		<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/>	Add comment Add reference
Miguel		<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Add comment • Miguel should... Add reference
OSD DTM-026		<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Add comment Add reference

Google docs Directive-Type Memorandum DTM-09-026, February 25, 2010 - PC Advanced Distributed Learnin Save in Google Docs Share

File View


1 / 5

1

2

3

4



DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-1010

February 25, 2010

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Directive-Type Memorandum (DTM) 09-026 - Responsible and Effective Use of Internet-based Capabilities

References: See Attachment 1

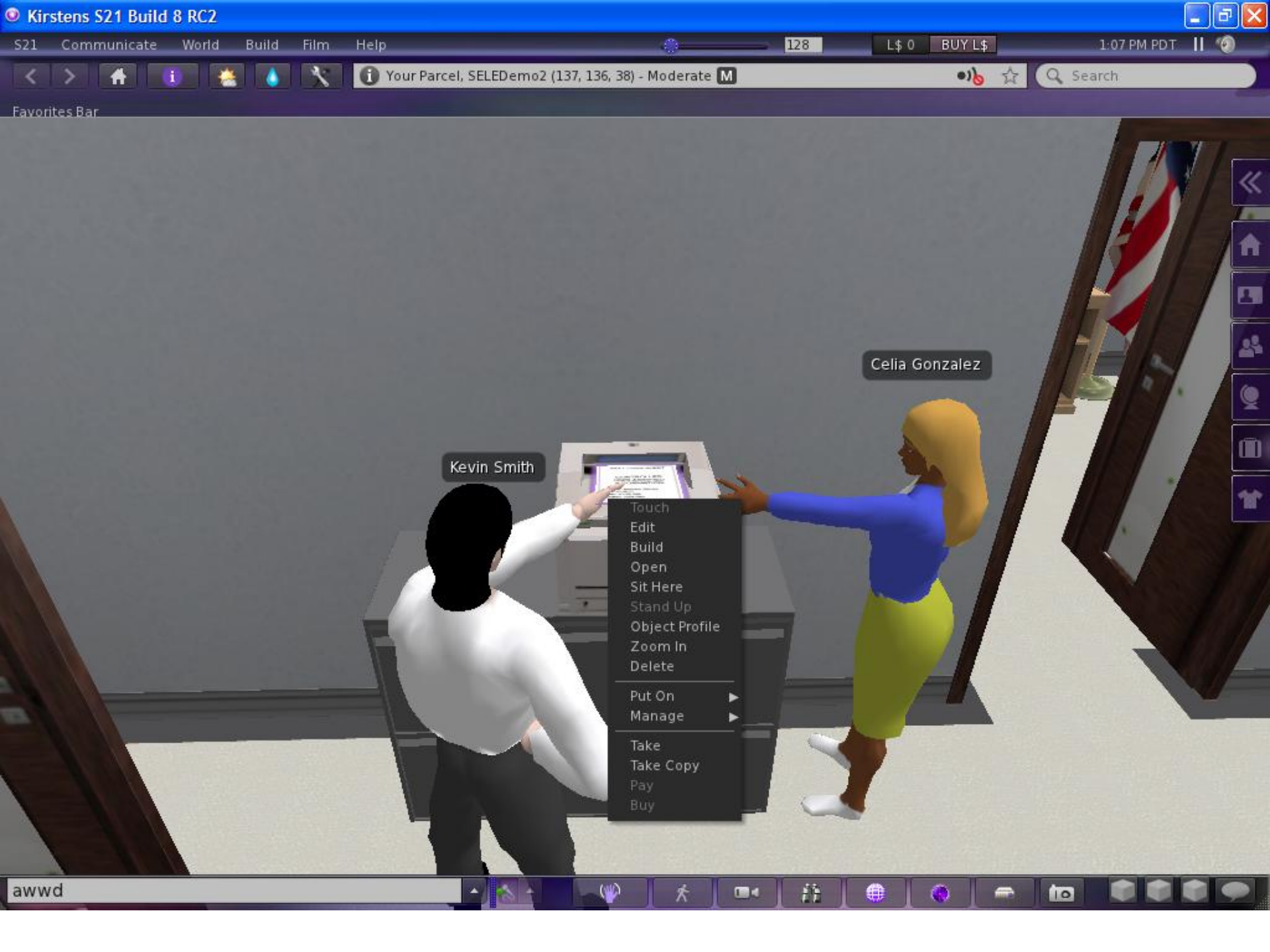
Purpose. This memorandum establishes DoD policy and assigns responsibilities for responsible and effective use of Internet-based capabilities, including social networking services (SNS). This policy recognizes that Internet-based capabilities are integral to operations across the Department of Defense. This DTM is effective immediately; it will be converted to a new DoD issuance within 180 days.

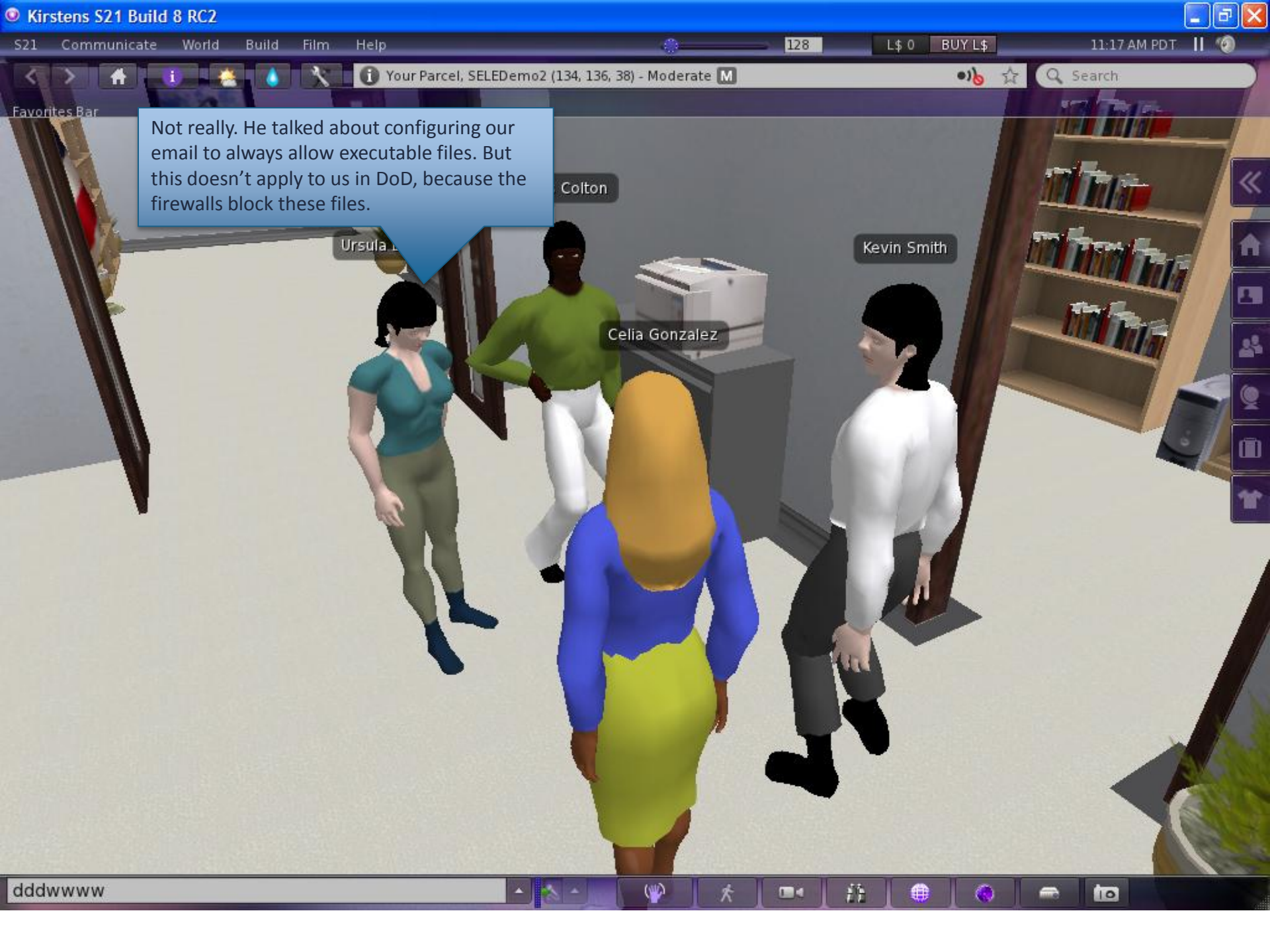
Applicability. This DTM applies to:

- OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as the "DoD Components").
- All authorized users of the Non-Classified Internet Protocol Router Network (NIPRNET).

Definitions. Unless otherwise stated, these terms and their definitions are for the purpose of this DTM.

- **Internet-based capabilities.** All publicly accessible information capabilities and applications available across the Internet in locations not owned, operated, or controlled by the Department of Defense or the Federal Government. Internet-based capabilities include collaborative tools such as SNS, social media, user-generated content, social software, e-mail, instant messaging, and discussion forums (e.g., YouTube, Facebook, MySpace, Twitter, Google Apps).
- **external official presences.** Official public affairs activities conducted on non-DoD sites on the Internet (e.g., Combatant Commands on Facebook, Chairman of the Joint Chiefs of Staff on Twitter).





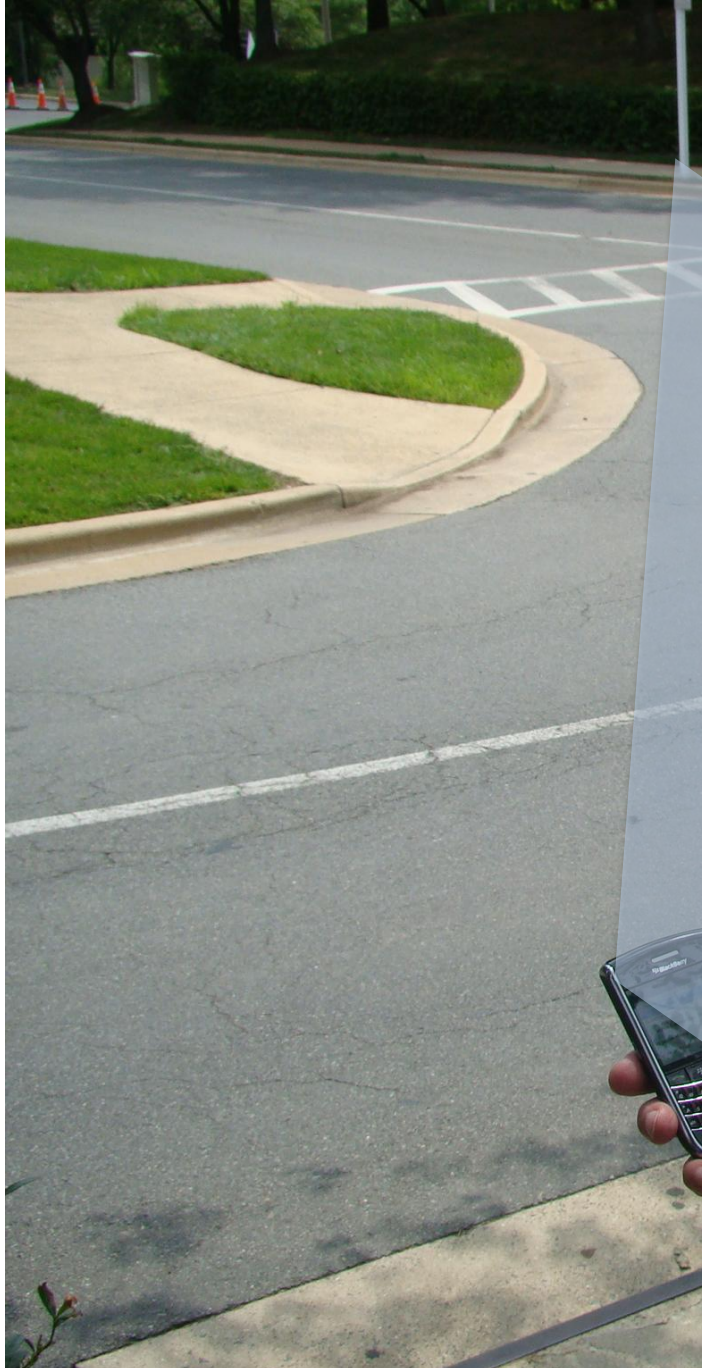
Not really. He talked about configuring our email to always allow executable files. But this doesn't apply to us in DoD, because the firewalls block these files.

Colton

Kevin Smith

Celia Gonzalez

Ursula L.



AT&T 3G

4:00 PM

90%


🔍

🔍

1 / 9

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▶



DEPUTY SECRETARY OF DEFENSE

1010 DEFENSE PENTAGON

WASHINGTON, D.C. 20301-1010

February 25, 2010

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Directive-Type Memorandum (DTM) 09-026 - Responsible and Effective Use of Internet-based Capabilities

References: See Attachment 1

Purpose. This memorandum establishes DoD policy and assigns responsibilities for responsible and effective use of Internet-based capabilities, including social networking services

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📄 5

Information Assurance Awareness - Windows Internet Explorer
http://iaae.disa.mil/eta/iaav9/iaa_v9/module.htm

DoD Information Assurance Awareness Course UNCLASSIFIED

FY11 Information Assurance Awareness Course

✓ Federal Information Security Management Act (FISMA)

✓ OMB Circular A-130

UNCLASSIFIED

HIDE TEXT RESOURCES GLOSSARY EXIT PAUSE REPLAY BACK FORWARD

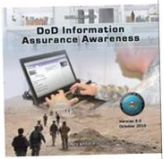
Welcome to the Information Assurance Awareness course. This lesson is unclassified and it meets all FISMA and OMB requirements for baseline annual information systems security and information assurance awareness training. This course is designed to help you understand the importance of information assurance, or IA, its guiding principles, and what it means for DoD. This course will identify potential risks and vulnerabilities associated with information systems, review your role in protecting these systems, and provide guidelines to follow at work and at home to protect against attacks on information systems, and to protect your personally

Done Internet | Protected Mode: On 100%





facebook



- Get Started
- Wall
- Hidden Posts
- Info
- Photos
- Edit

0 people like this

Add to My Page's Favorites

Subscribe via RSS

Share

DoD Information Assurance for Managers-Supervisors course cohort #438

Government Organization · Edit Info

Wall DoD Information Assurance... · Most Recent

Share: Status Photo Link Video Question

"What is the time limit for erasing sensitive data that is no longer needed? Is it 90 days?"

Everyone Share

DoD Information Assurance for Managers-Supervisors course cohort #438
This page is for use by members of cohort #438 in the DoD IA course. Please post questions and messages to other course participants here.
8 minutes ago · Like · Comment

RECENT ACTIVITY

- DoD Information Assurance for Managers-Supervisors course cohort #438 changed their Description.
- DoD Information Assurance for Managers-Supervisors course cohort #438 joined Facebook.

There are no more posts to show

Well done. Most of the major points are included in your draft of this topic ("Handling of Sensitive and Classified Information"). However, Miguel made some important points that you didn't include. Please go back and review what Miguel has to say about this topic.

Celia Gonzalez

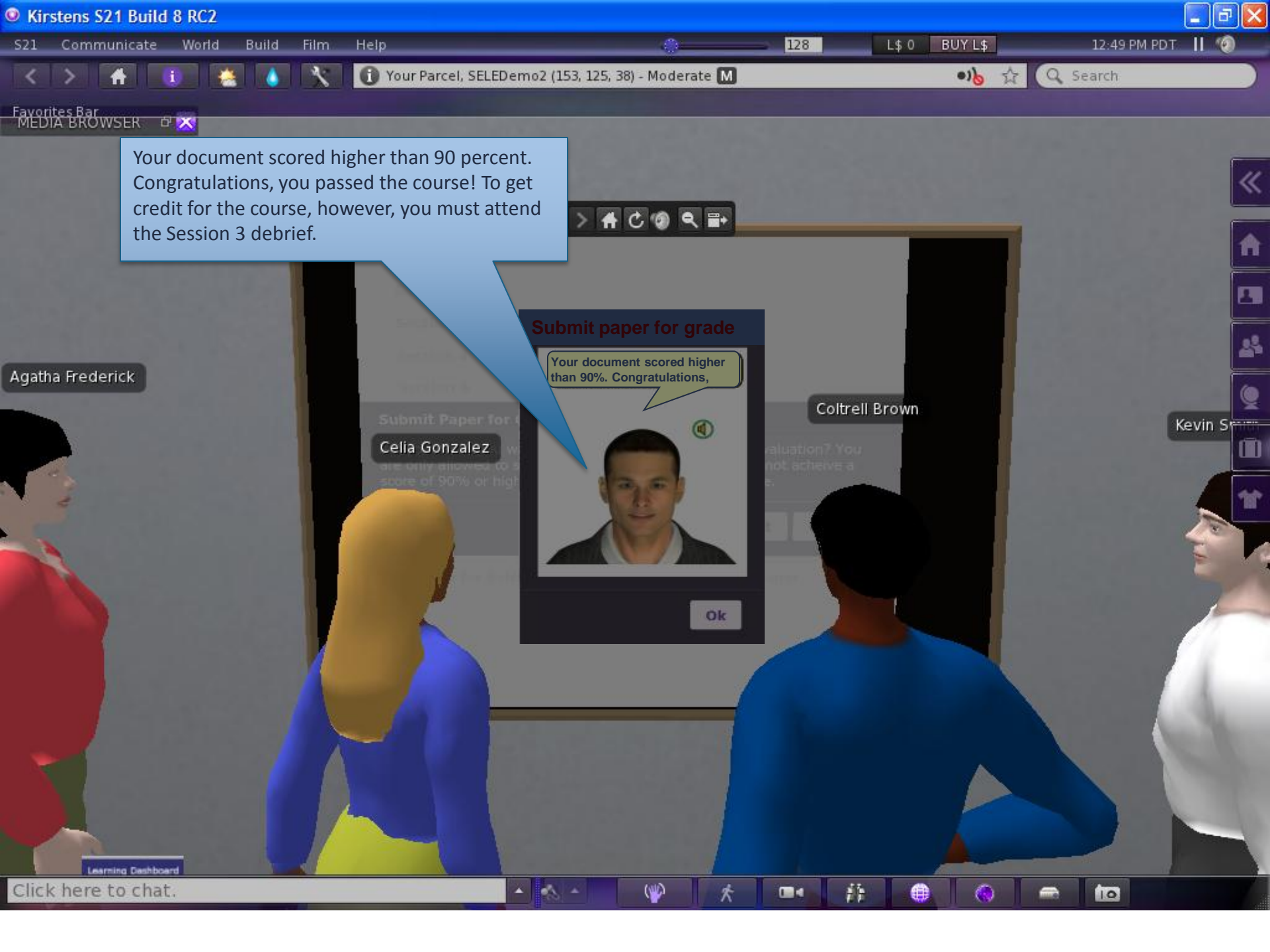
Kevin Smith

Section 4 score

Well done. Most of the major points are included in




Ok



Your document scored higher than 90 percent. Congratulations, you passed the course! To get credit for the course, however, you must attend the Session 3 debrief.

Submit paper for grade

Your document scored higher than 90%. Congratulations,



Ok

Agatha Frederick

Celia Gonzalez

Coltrell Brown

Kevin S

Learning Dashboard

Click here to chat.

I want you to now sign up for the Information Assurance Training Community of Practice. The link is on the information page for this course on the portal. This community of practice, or CoP [pronounced like it sounds-“cop”], provides notifications of new information and policies about information assurance, as well as new emerging threats. It contains a library of resources that is constantly updated, and a forum that allows you to communicate with other students that have taken this course and the larger community of DoD employees. You are now registered as a Journeyman Information Assurance Practitioner on the CoP. Other people in DoD may contact you for information about IA, based on your new status. To maintain membership on the CoP and your status as a Journeyman IA Practitioner, you’re required to post at least one forum entry every three months. Every year, if there are significant new added policies or policy changes, you may need to take update training.

IA Training Community of Practice (CoP)

- . Features
 - . Notifications of new info and policies
 - . New emerging threats
 - . Library of references
 - . Forum
- . You now registered as Journeyman IA Practitioner
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Stand





ADL Initiative



Questions?